

Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for genetic transformation of ~~a flowering plant~~ tomato or melon, said method comprising the steps of:

- (a) preparing a silicon carbide fibers solution;
- (b) preparing a pollen germination medium;
- (c) preparing a DNA solution;
- (d) mixing said silicon carbide fiber solution with said pollen germination medium and said DNA solution to form a mixture;
- (e) adding fresh pollen into said mixture to form a paste;
- (f) vortexing said paste for 30-60 seconds, thereby producing a vortexed paste;
- (g) applying said vortexed paste on female reproduction plant parts for pollination; and
- (h) ~~selecting for~~ selection of transformants.

2. (Currently Amended) The method of Claim 1, wherein the silicon carbide fibers of said silicon carbide fiber solution used in step (a) are approximately 0.1-20 μm diameter and 1-250 μm length.

3. (Canceled)

4. (Currently Amended) The method of Claim 1, wherein the silicon carbide fiber solution prepared in step (a) comprises a sufficient amount of sterile water or solvent, to make a 5% to 25% aqueous solution.

5. (Canceled)

6. (Previously Presented) The method of Claim 1, wherein said pollen germination medium is a solution containing about 5% - 15% sucrose, 0.01% - 1.0% H_3BO_3 , 0.01% to 1.0% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6.

7. (Canceled)

8. (Previously Presented) The method of Claim 1, wherein said DNA solution is a solution of plasmid DNA.

9. (Previously Presented) The method of Claim 8, wherein said plasmid DNA is dissolved in a Tris EDTA solution.

10. (Canceled)

11. (Currently Amended) The method of Claim 1, wherein the selection of transformants is performed ~~looking~~ for growing the phenotypic expression of a specific cloned

selectable marker gene with a phenotypic expression, said
expression being selected from the group consisting of both an
antibiotic resistance gene and a herbicide resistance gene,
said cloned selectable marker gene selected from the group
consisting of an antibiotic resistance gene and a herbicide
resistance gene.

12. (Previously Presented) The method of Claim 11,
wherein said selectable marker gene with a phenotypic
expression is a gene regulating anthocyanin levels.

13. (Previously Presented) The method of Claim 11,
wherein said selectable marker gene is a gene providing
resistance to at least one antibiotic.

14. (Previously Presented) The method of Claim 11,
wherein said selectable marker gene is a gene providing
resistance to neomycin phosphotransferase.

15. (Previously Presented) The method of Claim 11,
wherein said selectable marker gene is a gene providing
resistance to kanamycin.

16. (Previously Presented) The method of Claim 11,
wherein said selectable marker gene is a gene providing
resistance to phosphinothricin acetyltransferase.

17. (Previously Presented) The method of Claim 1, wherein the flowering plant is maize.

Claims 18-30 (Canceled)

31. (Currently Amended) A method for genetic transformation of maize reproducing sexually, said method comprising the steps of:

- (a) preparing a silicon carbide fiber solution;
- (b) preparing a pollen germination medium;
- (c) preparing a DNA solution;
- (d) mixing said silicon carbide fiber solution with said pollen germination medium and said DNA solution to form a mixture;
- (e) adding fresh pollen into said mixture to form a paste;
- (f) vortexing said paste for 30 to 60 seconds, thereby producing a vortexed paste;
- (g) applying said vortexed paste formed in step (e) on silks for pollination; and
- (h) ~~selecting for~~ selection of transformants.

32. (Currently Amended) The method of Claim 31, wherein ~~said silicon carbide fibers of~~ said silicon carbide

fiber solution used in step (a) are approximately 0.1-20 μm in diameter and 1-250 μm in length.

33. (Previously Presented) The method of Claim 31, wherein the silicon carbide fiber solution prepared in step (a) comprises a sufficient amount of sterile water or solvent, to make a 5% to 25% aqueous solution.

34. (Previously Presented) The method of Claim 31, wherein the pollen germination medium contains about 5% - 15% sucrose, 0.01% - 1.0% H_3BO_3 , 0.01% to 1.0% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6, and more preferably, about 15% sucrose, 0.018% H_3BO_3 , 0.04% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6.

35. (Previously Presented) The method of Claim 31, wherein said DNA solution is a solution of plasmid DNA.

36. (Currently Amended). The method of Claim 35, wherein said solution of plasmid DNA is dissolved in a Tris EDTA solution.

37. (Currently Amended) The method of Claim 31, wherein the selection of transformants is performed by ~~looking~~ for growing the phenotypic expression of a specific cloned selectable marker gene with a phenotypic expression, said expression being selected from the group consisting of both an

antibiotic resistance gene and a herbicide resistance gene,
said cloned selectable marker gene selected from the group
consisting of an antibiotic resistance gene and a herbicide
resistance gene.

38. (Previously Presented). The method of Claim
37, wherein said selectable marker is a gene providing
resistance to neomycin phosphotransferase.

39. (Previously Presented) The method of Claim 37,
wherein said selectable marker gene is a gene providing
resistance to kanamycin.

40. (Currently Amended) The method of Claim 37,
wherein said selectable marker gene is gene-providing
resistance to phosphinothricin acetyltransferase.

41. (New) The method of claim 2, wherein said
silicon carbide fibers are between 1-2 μm in diameter and 10-
180 μm in length.

42. (New) The method of claim 32, wherein said
silicon carbide fibers are between 1-2 μm in diameter and 10-
180 μm in length.

43. (New) The method of claim 6, wherein the pollen germination medium contains about 15% sucrose, 0.018% H_3BO_3 , 0.04% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH5.6.

44. (New) The method of claim 34, wherein the pollen germination medium contains about 15% sucrose, 0.018% H_3BO_3 , 0.04% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH5.6.

45. (New) The method of claim 1, wherein said flowering plant is melon.

46. (New) The method of claim 1, wherein said flowering plant is tomato.

REMARKS

As noted above, new attorneys have been appointed as applicants' representatives. Please see the attached Revocation and New Power of Attorney.

As new attorneys are in charge, the attorneys' docket is changed. Please correct the PTO files to reflect the new attorney docket, namely "KOROL=1".

The remainder of the Remarks are reproduced from the non-entered Reply of July 7, 2003, with only editorial changes:

Claims 1, 2, 4, 6, 8, 9, 11-17 and 31-46 are under consideration. Claims 1, 2, 4, 6, 8, 9, 11-17 and 31-46 were rejected in the Office Action dated July 30, 2002. Claims 1, 11, 31, 32, 36 and 37 have been amended. Each of the above claims that were not amended is dependent upon an amended claim. Applicants ask that the above claims be reconsidered.

The Examiner rejected claims 1-2, 4, 6, 8-9, 11-17, 41 and 43 under 35 USC §112, first paragraph, for failing to provide a disclosure which was enabling for the claims. Applicant apologizes for errantly forgetting to include the Declaration in the previous amendment. The Declaration of Professor Abraham Korol has been included with this amendment. The declaration exhibits Mr. Korol's success applying this process to both tomato and melon, indicating that

taxonomically and structurally divergent plants can be transformed by the method disclosed. In addition, claim 1 has been changed to recite "tomato or melon" in place of "flowering plants", in accordance with the Office Action.

The previous claims contained several instances of insufficient antecedent basis, all of which have been corrected accordingly.

- Claims 1 and 31 lacked antecedent basis for "said vortexed paste" in part (f). Applicant's attorney disagrees, but has amended the claim in the interest of expediting the allowance of this application. The previous part (g) has been expanded to contain the phrase "thereby producing a vortexed paste".

- Examiner stated claims 11 and 37 also lack antecedent basis for "the selection of transformants" in lines 1-2. Applicant's attorney disagrees that this expression lacked antecedent basis. In order to comply with the Examiner's objections, claim 1 and 31 have been amended, and now utilize "the selection of transformants" in place of "selecting for transformants".

- The limitation "said silicon carbide fibers" has been removed from claim 32.

- The expression "said plasmid DNA" has been changed to "said solution of plasmid DNA".


- Examiner wrote, "Claim 36 lacks antecedent basis for the limitation 'said selectable marker'." Applicant's attorney understood this as a typographical error and adjusted claim 38, which did contain the expression "said selectable marker", now changed to "said specific cloned selectable marker".

Applicants have made a diligent effort to amend the claims and respond to the various rejections made in the Office Action. If for any reason the examiner should deem this application not in condition for allowance, the examiner is respectfully requested to telephone the undersigned attorney to resolve any outstanding issues prior to issuing a further Office Action.

Respectfully submitted,

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